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SHERIDAN ROSS PC			EXAMINER	
1560 BROADWAY			CAMPEN, KELLY SCAGGS	
SUITE 1200				
DENVER, CO 80202				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/642,377

Applicant(s)

MEGALE ET AL.

Examiner

Kelly Campen

Art Unit

3691

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SF/86)
Paper No(s)/Mail Date 4/16/2008
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Objections

The claims are objected to because they include reference characters which are not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m). Accordingly, parentheses should be limited to reference characters corresponding to elements recited in the detailed description of the drawings and not to any other.

Specification

The abstract of the disclosure is objected to because it includes language which may be implied ("The present invention...", see below, emphasis added). Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-8 recite a process comprising the steps of acquiring, setting up, calculating, selecting, configuring, establishing and processing. Based on Supreme Court precedent, a proper process must be tied to another statutory class or transform underlying subject matter to a different state or thing (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780,787-88 (1876)). Since neither of these requirements is met by the claim, the method is not considered a patent eligible process under 35 U.S.C. 101. To qualify as a statutory process, the claim should positively recite the other statutory class to which it is tied, for example by identifying the apparatus that accomplished the method steps or positively reciting the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

In addition, the instant claims have a judicial exception as to the mathematical calculations as it raises the concern of preemption of the judicial exception. The claims seem to cover all uses, every practical application, of the math calculation.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "the GLOBSOL software" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 108 are rejected under 35 U.S.C. 102(e) as being unpatentable by Michaud et al. (US 6928418).

Michaud et al. disclose a method of processing historical data relating to past performance of markets and financial tools in order to obtain a synthetic index constituted by a series of performances representative of various economical and financial scenarios (see col 5-6), the method comprising: acquiring historical data relating to a number of historical series of

performances (see col 5, lines 40-65); setting up a given number of performances to be produced, wherein the given number of performances constitutes the synthetic index; setting up a first number of probability levels to utilize for defining at least one control system and a second number of probability levels to utilize for defining at least one statistical scenario (probabilities see fig 8a, see col 8, lines 30-45, col 19, lines 25-45, col 12,, 25-50); setting up a given number of time intervals including a time interval equal to the given number of performances, in which particular mathematical constraints are verified between curves generated by the at least one control system, wherein the curves are originated by the given number of performances of the synthetic index and by the at least one statistical scenario obtained from the number of historical series of performances (col 12); calculating a plurality of statistical scenarios constructed in accordance with said second number of probability levels and the given number of time intervals, wherein in a first statistical scenario and in a second statistical scenario; setting up a growing series of correlation values; selecting a non-linear programming algorithm for identifying global optima; configuring said non-linear programming algorithm so that it: assumes the given number of performances to be the synthetic index, and performs at least one of minimizing and maximizing an objective function, wherein the objective function is obtained as a standard logarithmic deviation from the given number of performances; establishing constraints for the non-linear programming algorithm, so that said non-linear programming algorithm calculates the given number of performances to arrive at least one of a minimum synthetic index and a maximum synthetic index; and processing the non-linear programming algorithm so that it provides at least one of the maximum synthetic index and the minimum synthetic index (see table col 13) The above reads on the Mean- approach Variance (see col 1-2

for background on Mean Variance as well as references cited) with Monte-Carlo stimulation (see col. 5, lines 40-65 for Monte Carlo simulation).

Specifically as to claim 2, three probability levels, the first probability level comprising an average probability level equal to 50%, the second probability level comprising a minimum probability level of less than 50%, and the third probability level comprising a maximum probability level of greater than 50% (see above rejection for claim 1, in addition, figure 8A, as well as a matter of design choice).

Specifically as to claim 3, probability levels comprises three probability levels, the first probability level comprising an average probability level equal to 50%, the second probability level comprising a lower probability level of less than 50%, and the third probability level comprising a higher probability level of greater than 50% (see above rejection for claim 2).

Specifically as to claim 4, three statistical scenarios constructed in accordance with three probability levels (see above rejection for claim 1, in addition, see fig 8a, see col 8, lines 30-45, col 19, lines 25-45, col 12,, 25-50).

Specifically as to claim 5, a standard deviation of the given number of performances that is greater than or equal to the average of standard deviations calculated on a rolling calculation of the historical series of performances, wherein the rolling calculation is equal in number to the given number of performances; value of the control system that is constructed on the given number of performances is defined utilizing a probability level equal to 50% and coincides with the value of a statistical scenario that is calculated on the number of historical series of performances at a probability level equal to 50%, wherein both the control system and the statistical scenario relate to a time interval equal to the total given number of performances; the

values of the control systems defined for the given number of performances having a given number of time intervals and probability levels comprising a maximum probability level of greater than 50% have values that are lower than or coincident with corresponding values of the statistical scenarios calculated on the number of historical series of performances that have probability levels comprising a higher probability level of greater than 50%; the values of the control systems that are defined for the given number of performances having a given number of time intervals and probability levels comprising a minimum probability level of less than 50% have values that are higher than or coincident with corresponding values of the statistical scenarios calculated on the number of historical series of performances that have probability levels comprising a lower probability level of less than 50%; and the correlation between: the given number of performances; and the last portion of performances of the number of historical series of performances equal in number to the given number of performances; is equal to the highest possible value (see above rejection for claim 1, in addition, see fig 8a, see col 8, lines 30-45, col 19, lines 25-45, col 12,, 25-50)

Specifically as to claim 6, the value of the control system that is constructed on the given number of performances is defined utilizing a probability level equal to 50% and coincides with the value of a statistical scenario that is calculated on the number of performances, at a probability level equal to 50%, wherein both the control system and the statistical scenario relate to the time interval equal to the number of performances; the control systems defined for the given number of performances having a given number of time intervals and probability levels comprising a maximum probability level of greater than 50% are higher than or coincident with corresponding values of the statistical scenarios calculated on the number of historical series of

performances that have probability levels comprising a higher probability level of greater than 50%; the values of the control systems that are defined for the given number of performances having a given number of time intervals and probability levels comprising a minimum probability level of less than 50% are lower than or coincident with corresponding values of the statistical scenarios calculated on the number of historical series of performances that have probability levels comprising a lower probability level of less than 50%; and the correlation between: the given number of performances; and the last portion of performances of the number of historical series of performances equal in number to the given number of performances; is equal to the highest possible value (see above rejection for claim 1, in addition, see fig 8a, see col 8, lines 30-45, col 19, lines 25-45, col 12,, 25-50).

Specifically as to claim 7, under the constraint, the value of correlation considered is one less than the highest value given see claim 1, in addition, see col. 2, lines 20-50).

Specifically as to claim 8, an algorithm implemented in the GLOBSOL software see col 13-14).

Response to Arguments

Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so

long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., means by which historical data is synthesized to arrive at synthetic indices representing that historical data, inclusive of maximum indices and maximum indices of the historical data as well as utilizing a global optimization algorithm to arrive at the synthetic indices) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to Applicant's arguments concerning personal knowledge of Mean Variance Optimization, Examiner has cited several patent references with reference to Mean Variance Optimization explanation as well as establishing that these concepts are known in the art.

Examiner's Note

Examiner has cited particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially

teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Horrigan et al. discloses an optimal order choice by evaluating uncertain discounted trading alternatives. Shearer et al. discloses load aware optimization. Garmen discloses an integrated system and method for analyzing derivative securities. Michaud et al. discloses portfolio optimization by means of resampled efficient frontiers. Scott et al. disclose mean Variance Optimization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Campen whose telephone number is (571)272-6740. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Kalinowski can be reached on (571) 272-6771. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kelly Campen/
Examiner, Art Unit 3691